

In re Application of Ragsdale et al.  
Application No. 10/615,283

AMENDMENTS TO THE CLAIMS

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1. (Currently Amended) An additive suitable for addition to a polyol reactant used use in the manufacture of a polymer foam, the additive comprising:

(a) a polyol,

(b) a benzotriazole, the benzotriazole being present in the additive in an amount of about 0.5 to about 6.0 parts per hundred parts of the polyol (php),

[[~~(b)~~]] (c) a lactone-based antioxidant having a 3-phenylbenzofuran-2-one structure, the lactone-based antioxidant being present in the additive in an amount of about 0.05 to about 1.0 php, and

[[~~(c)~~]] (d) a third fourth component selected from the group consisting of:

(i) about 0.05 to about 1.0 php of a secondary phenylamine,

(ii) about 0.05 to about 2.0 php of a hindered phenol, and

(iii) a combination of about 0.05 to about 1.0 php of a secondary phenylamine and about 0.05 to about 2.0 php of a hindered phenol.

2. (Currently Amended) The additive of Claim 1 wherein said ~~third~~ fourth component is a secondary phenylamine.

3-16. (Canceled)

17. (Currently Amended) The additive of Claim 1 wherein said ~~third~~ fourth component is a hindered phenol.

18. (Currently Amended) The additive of claim 1, wherein said ~~third~~ fourth component is a combination of a secondary phenylamine and a hindered phenol.

19. (Currently Amended) The additive of claim 1, wherein said additive comprises:

(a) a polyol,

(b) about 0.8 to about 2.0 php of a benzotriazole,

[[~~(b)~~]] (c) about 0.1 to about 0.7 php of a lactone-based antioxidant having a 3-phenylbenzofuran-2-one structure,

[[~~(c)~~]] (d) about 0.1 to about 0.5 php of a secondary phenylamine, and

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[[[d)]] (e) about 0.1 to about 1.5 php of a hindered phenol.

20. (Currently Amended) The additive of claim 19, wherein said additive comprises:

(a) a polyol,

(b) about 0.8 to about 2.0 php of a benzotriazole,

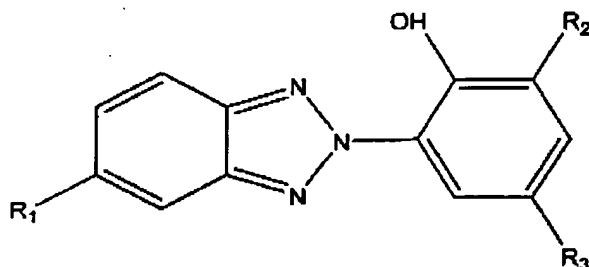
[[[b)]] (c) about 0.15 to about 0.3 php of a lactone-based antioxidant having a 3-phenylbenzofuran-2-one structure,

[[[c)]] (d) about 0.1 to about 0.5 php of a secondary phenylamine, and

[[[d)]] (e) about 0.25 to about 0.65 php of a hindered phenol.

21. (Previously Presented) The additive of claim 1 wherein said benzotriazole conforms to the structure of Formula (I)

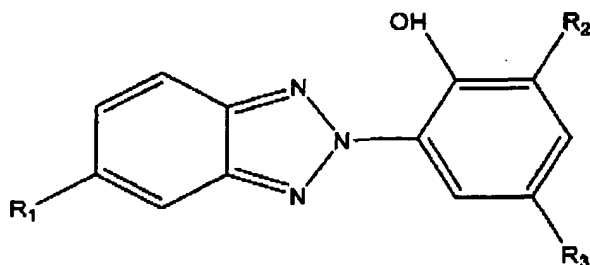
(I)



wherein  $R_1$ ,  $R_2$ , and  $R_3$  are individually selected from the group consisting of hydrogen, groups conforming to the formula  $C_xH_yO_z$ , where  $x$ ,  $y$ , and  $z$  are from 0 to 30, and halogens.

22. (Previously Presented) The additive of claim 19 wherein said benzotriazole conforms to the structure of Formula (I)

(I)

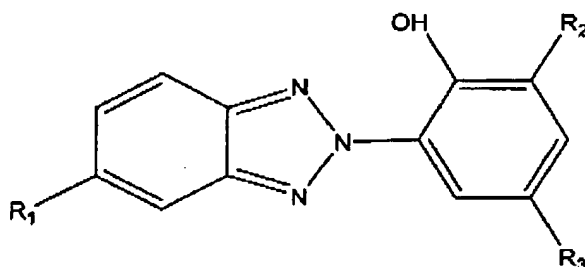


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wherein  $R_1$ ,  $R_2$ , and  $R_3$  are individually selected from the group consisting of hydrogen, groups conforming to the formula  $C_xH_yO_z$ , where  $x$ ,  $y$ , and  $z$  are from 0 to 30, and halogens.

23. (Previously Presented) The additive of claim 20 wherein said benzotriazole conforms to the structure of Formula (I)

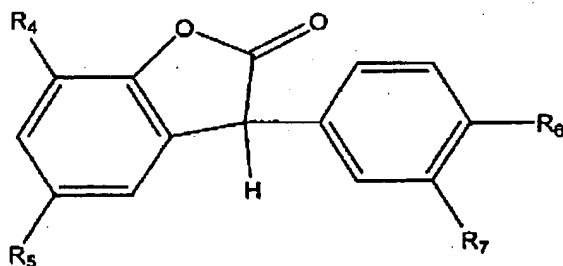
(I)



wherein  $R_1$ ,  $R_2$ , and  $R_3$  are individually selected from the group consisting of hydrogen, groups conforming to the formula  $C_xH_yO_z$ , where  $x$ ,  $y$ , and  $z$  are from 0 to 30, and halogens.

24. (Previously Presented) The additive of claim 1 wherein said lactone-based antioxidant conforms to the structure of Formula (II)

(II)

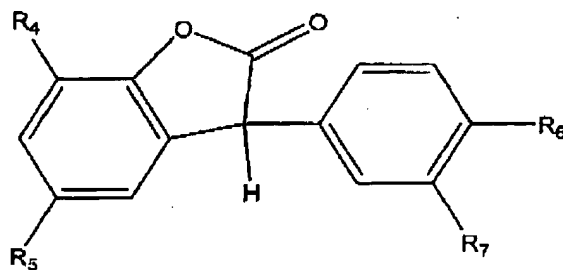


wherein  $R_4$ ,  $R_5$ ,  $R_6$ , and  $R_7$  are individually selected from the group consisting of hydrogen and  $C_{1-30}$  alkyl groups.

25. (Previously Presented) The additive of claim 19 wherein said lactone-based antioxidant conforms to the structure of Formula (II)

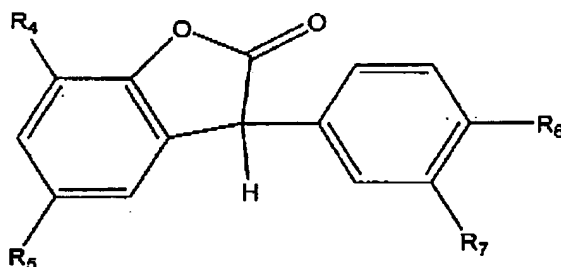
(II)

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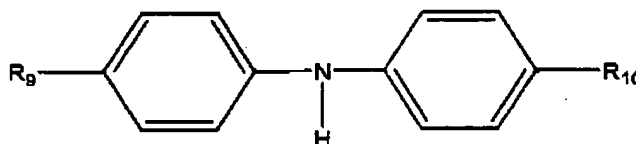
wherein  $R_4$ ,  $R_5$ ,  $R_6$ , and  $R_7$  are individually selected from the group consisting of hydrogen and  $C_{1-30}$  alkyl groups.

26. (Previously Presented) The additive of claim 20 wherein said lactone-based antioxidant conforms to the structure of Formula (II)  
(II)



wherein  $R_4$ ,  $R_5$ ,  $R_6$ , and  $R_7$  are individually selected from the group consisting of hydrogen and  $C_{1-30}$  alkyl groups.

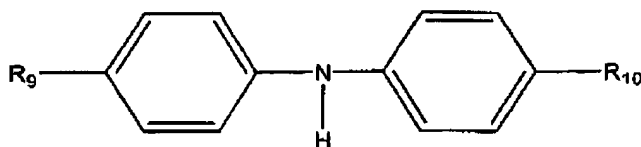
27. (Previously Presented) The additive of claim 1 wherein the secondary phenylamine conforms to the structure of Formula (IV)  
(IV)



wherein  $R_9$  and  $R_{10}$  are individually selected from the group consisting of hydrogen, groups conforming to the formula  $C_xH_yO_z$ , where  $x$ ,  $y$ , and  $z$  are from 0 to 30, and halogens.

28. (Previously Presented) The additive of claim 19 wherein the secondary phenylamine conforms to the structure of Formula (IV)  
(IV)

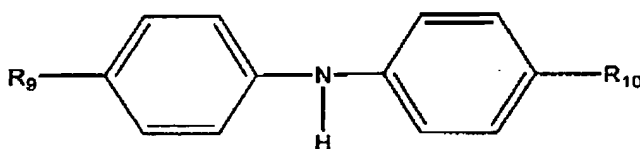
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wherein  $R_9$  and  $R_{10}$  are individually selected from the group consisting of hydrogen, groups conforming to the formula  $C_xH_yO_z$ , where  $x$ ,  $y$ , and  $z$  are from 0 to 30, and halogens.

29. (Previously Presented) The additive of claim 20 wherein the secondary phenylamine conforms to the structure of Formula (IV)

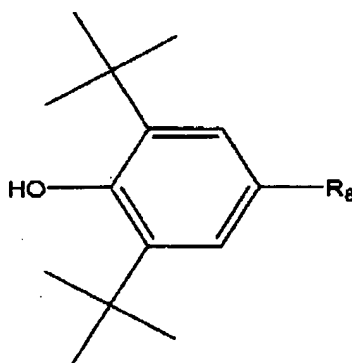
(IV)



wherein  $R_9$  and  $R_{10}$  are individually selected from the group consisting of hydrogen, groups conforming to the formula  $C_xH_yO_z$ , where  $x$ ,  $y$ , and  $z$  are from 0 to 30, and halogens.

30. (Previously Presented) The additive of claim 1 wherein the hindered phenol conforms to the structure of Formula (III)

(III)

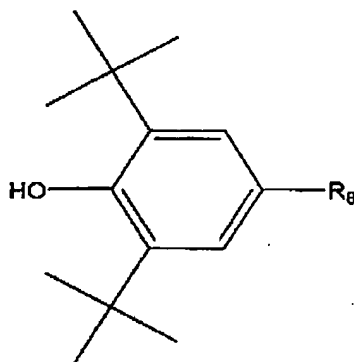


wherein  $R_8$  is selected from the group consisting of hydrogen, groups conforming to the formula  $C_xH_yO_z$ , where  $x$ ,  $y$ , and  $z$  are from 0 to 30, and halogens.

31. (Previously Presented) The additive of claim 19 wherein the hindered phenol conforms to the structure of Formula (III)

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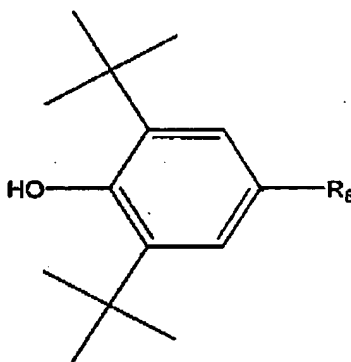
(III)



wherein R<sub>8</sub> is selected from the group consisting of hydrogen, groups conforming to the formula C<sub>x</sub>H<sub>y</sub>O<sub>z</sub>, where x, y, and z are from 0 to 30, and halogens.

32. (Previously Presented) The additive of claim 20 wherein the hindered phenol conforms to the structure of Formula (III)

(III)



wherein R<sub>8</sub> is selected from the group consisting of hydrogen, groups conforming to the formula C<sub>x</sub>H<sub>y</sub>O<sub>z</sub>, where x, y, and z are from 0 to 30, and halogens.

33. (New) A composition comprising:

- (a) a polyol,
- (b) a benzotriazole,
- (c) a lactone-based antioxidant having a 3-phenylbenzofuran-2-one structure, and
- (d) a fourth component selected from the group consisting of secondary phenylamines, hindered phenols, and combinations thereof.

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34. (New) The composition of claim 33, wherein the composition comprises:
- (a) the polyol,
  - (b) the benzotriazole in an amount of about 0.5 to about 6.0 parts per hundred parts of the polyol (php),
  - (c) the lactone-based antioxidant in an amount of about 0.05 to about 1.0 php, and
  - (d) a fourth component selected from the group consisting of:
    - (i) about 0.05 to about 1.0 php of a secondary phenylamine,
    - (ii) about 0.05 to about 2.0 php of a hindered phenol, and
    - (iii) a combination of about 0.05 to about 1.0 php of a secondary phenylamine and about 0.05 to about 2.0 php of a hindered phenol.